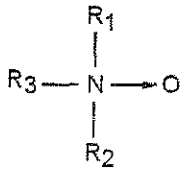
and ketones and adducts thereof. The low molecular weight aldehydes may also be combined with an alkyl or alkanolamine as disclosed in US Patent 4,748,011. Other aldehyde derived scavengers include the reaction product of low molecular weight alkanolamines and aldehydes as disclosed in US Patent 4,978,512. PCT Application WO 92/01481 discloses a method of reducing sulfides in a sewage gas using certain tri-substituted-hexahydro-s-triazines. German reference DE4027300 discloses a regenerative solvent for removing H_2S and mercaptans. US Patent 5,347,004 discloses the use of 1,3,5 alkoxyalkylene hexahydro triazines. PCT Application WO 91 US 5232 discloses hydroxyalkyl triazine scavengers, specifically an N,N',N"-tris(2-hydroxyethyl)hexahydro-s-triazine. US Patent 5,774,024 discloses the combination of an alkyl triazine scavenger and quaternary ammonium salt, where the quaternary ammonium salt enhances the effectiveness of the alkyl-triazine..

Thus there is clear need and utility for an improved method of scavenging hydrogen sulfide from hydrocarbon fluids. The art described in this section is not intended to constitute an admission that any patent, publication or other information referred to herein is "prior art" with respect to this invention, unless specifically designated as such. In addition, this section should not be construed to mean that a search has been made or that no other pertinent information as defined in 37 CFR § 1.56(a) exists.

Brief Summary of the Present Disclosure~~Invention~~

At least one embodiment of the present disclosure~~invention~~ is directed towards a method for removing hydrogen sulfide from a hydrocarbon fluid. The method comprises contacting the fluid with an effective amount of sulfide scavenger formulated with a nitroxide promoter. The amount of nitroxide promoter is sufficient to accelerate the scavenging action of the scavenger in comparison to the scavenging action of the scavenger in the absence of the nitroxide promoter.

In an aspect, there is provided a method of reducing the amount of hydrogen sulfide in a hydrocarbon fluid comprising contacting the fluid with an effective amount of a composition, the composition comprising an alkyl-triazine sulfide scavenger and a nitroxide promoter wherein the amount of nitroxide promoter is from 1-25% of the composition, wherein the nitroxide promoter is a composition of matter according to the formula:



where R_1, R_2 and R_3 are any alkyl group containing 1 - 30 carbon atoms.